

Figure 1

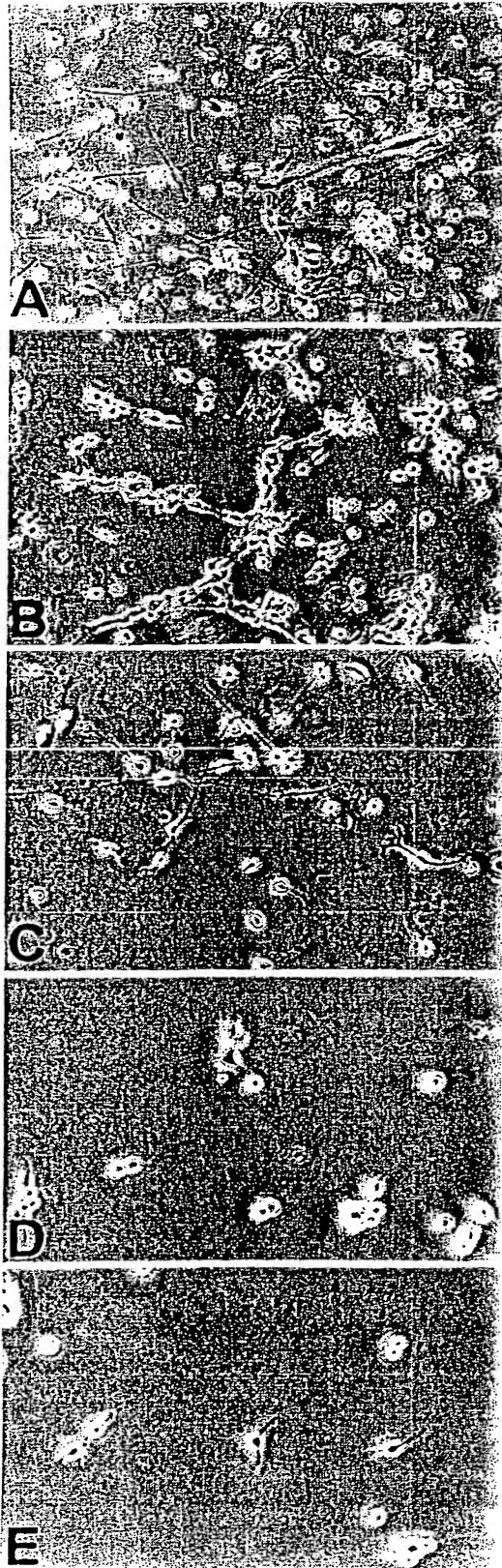


Figure 2

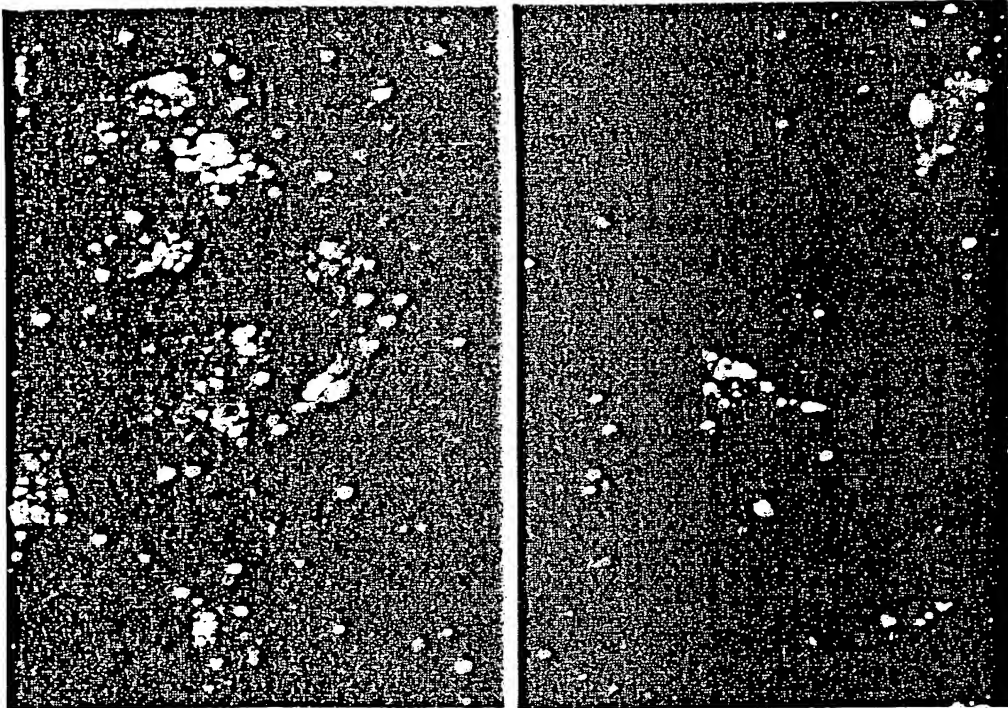


Figure 3

Figure 4-A

NM001975, mRNA

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 61 catgcgcccc cgcgcccta taggcgctc ctccgccgc cggcgaggag ccgcagccgc
 121 cgccgccact gccactcccg ctctcagc gccgccgtcg ccaccgccac cgccaccgcc
 181 actaccaccg tctgagtcg cagtcggag atccagcca tcatgtccat agagaagatc
 241 tgggcccggg agatcctgga ctccgcggg aacccacag tggagggtga tctctatct
 301 gccaagggtc ttctccggg tgcagtgcc agtggagcct ctacgggcat ctataggcc
 361 ctggagctga gggatggaga caaacagcgt tacttaggca aaggtgtcct gaaggcagt
 421 gaccacatca actccacat cgcgccagcc ctcatcagct caggctctc tgggtggag
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 541 ggggccaatg ccatcctggg tgtgtctcg gccgtgtga aggcaggggc agctgagcgg
 601 gaactgccc tgtatcgcca cattgctcag ctggccggga actcagacct catcctgcct
 661 gtgccggcct tcaacgtgat caatggggc tctcatgctg gcaacaagct ggccatgcag
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Figure 4-B

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2101 ctgggggga cgaatgtgtc gtattcatg tggctgtaga tccaagatg actgggggtg
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Figure 5-A

X51956 Human, DNA

1 ctgcagggga aagtgggtg tgtatgcagc tggacctagg agagaagcag gagaggaaga
 61 tccagcacia aaaatctgaa gctaaaaaca ggacacagag atgggggaag aaaagagggc
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Figure 5-B

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Figure 5-C

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Figure 5-D

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Figure 5-E

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Figure 5-F

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Figure 6-A

M11931 Rat brain mRNA complete cds

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241  taggcaaagg tgtcctgaag gctgtggacc acatcaacag caccatcgca ccggccctca
301  tcagctcagg cctctctgtg gtggagcagg agaagctgga caacctgatg ctggagtgg
361  atgggactga gaacaaatcc aagtttgggg ccaatgccat cctgggtgtg tccctggccg
421  tgtgcaaggc tggggcagcc gagaaggact tggccctcta tcgccacatt gctcaactgg
481  ctgggaactc cgacctatc ctgccgtgc cggcctttaa tgtgatcaac ggtggctctc
541  atgtgggaa caagtggcc atgcaggagt tcatgatcct ccagtggtt gctgagagct
601  ttcgggatgc catgcgactt ggggcccagg tgtaccacac actcaagggg gtcatcaagg
661  acaagtacgg caaggatgcc actaatgtgg gggatgaagg cggctttgcc cccaatatcc
721  tggagaacag cgaagctttg gagctggtga aggaagccat tgacaaggct ggctacacgg
781  aaaagatggt gattggtatg gatgtggctg cctctgagtt ttaccgcgat ggcaaatacg
841  acttggattt caagtctct gctgacctt cccgatgcat cactggggac cagcttgggg
901  cactctacca ggactttgtc cggaaactatc ctgtggtctc cattgaagac ccattcgacc
961  aggatgactg ggcagcttgg tccaagtcca cagccaatgt cggcatccag atagtgggtg
1021  atgacctgac ggtgaccaac cccaagcgca tcgagcgggc agtgaggagg aaggcctgca
1081  actgtttgct gctcaaggtc aaccagatcg gtcagtcac agaagccatc caagcgtgca
1141  agctggccca ggagaacggc tgggggggta tggtagtca tcgctctgga gaaaccgagg
1201  acacgttcat tgcagacctc gtagtgggac tgtgtacagg tcagatcaag actggtgccc
1261  catgcagatc tgaacgtctg gcgaagtaca accagctcat gaggattgaa gaggagtgg
1321  gggaggaggc tcgcttcgcg ggacacaact tccggaatcc cagtgtgctg tgacccctg
1381  cttgcctgaa caccggaaca tcatctcatt ctctggagc ctctttctg ctgtcccgac
1441  ccgccatagt taccttgata ccttgagccc caagtcaccc agaacacctc gactcacctg
1501  ctctggctgt tcttggcttc cacaaccctt tgctgtctcc tactcttct cctctctggg
1561  ccccatttt ggggggattc cagtctgccc actttccctt ctattctctc taatcttaaa
1621  aaaaaaaaaa aaatgacgac tagaagaagc ggtccacaga agaaccgcca gcgtccgaga
1681  ggagcttcag gattggtgtg ttggggcggt taaagtggg ccacgtggca cgtgtgcttc
1741  cctgccatcc atggtgtgtt aagccttgaa ctatgcacag agctggtgtt tggggagtgc
1801  tggatgtgtg tgtgttcaca ttgtttgtt ttttattta ttattcact tatttattc
1861  tcagcctgtc agtcgtctgc cattactctt acagtctgaa agcatcagta tttcacgtg
1921  gtccatttc aagatgacct aggatgggag gttttgttag catgggaaag gtcacagaaa
1981  ggttagcaat ggttttcat ttggtgcact aactgaagct cgttacttta cagaatgggg

```

Figure 6-B

2041 ctgtgtaccc ggggactttt ctctataac tctctcccc agccctagg tctcagtt
2101 tttctccgg ctgcaccaga gcgctgctc attccccgt gccatgtccc acagttgcca
2161 ctgtctctgt ggcttgaâa tgaccaccac tattaaagtc tgaaccacag tgcacacc

Figure 7

neuron-specific enolase mRNA

1 agtaaagggtg atggcaggaa ggcagcccc ggaggcaaag gctgggcacg cgggaggaga
61 ggccagagtc agaggctgcg ggtatctcag atatgaagga aagatgagag aggctcagga
121 agaggtaaga aaagacacaa gagaccagag aagggagaag aattagagag ggaggcagag
181 gaccgctgtc tctacagaca tagctggtag agactgggag gaagggatga accctgagcg
241 catgaaggga aggagggtgc tgggtgtata tggaggatgt agctggggcc agggaaaaga
301 tcctgcactg gggatctgaa gctggggaga acaggacacg gggtgagag gcgaaaggag
361 ggcagagtga agcagagaga ctgaggcctg gggatgtggg cattccgga gggcacacag
421 ttactgtc ttctctttt ccaggaggcc aaagatgctg acgtcaagaa ctcataatac
481 cccagtggg accaccgcat tcatagccct gttacaagaa gtgggagatg ttccttttg
541 tcccagactg gaaatccatt acatcccag gctcagggtc tgtggtggtc atctctgtg
601 ggcttgttct gtgggcctac cttaaagtct aagcacagct ctcaagcaga tccgaggcga
661 ctaagatgct agtaggggtt gtctggagag aagagccgag gaggtgggt gtgatggatc
721 agttcagctt tcaaataaaa aggcgtttt atattctgtg tcgagttcgt gaaccctgt
781 ggtgggcttc tccatctgtc tgggttagta cctgccacta tactggaata aggagacgcc
841 tgctccctc gagtggctg gacaaggta tgagcatccg tgtacttatg gggttgccag
901 ctgggtctg gatcgcccg gccctcccc caccgltcg gttccccacc accaccgcg
961 ctgtagctg cgtctccgc tcagctctt gactcatcg ggccccggg tcacatgcg
1021 tcgctcggt ctataggcg cgcctctgc ccacccccg cccgcgtgg gagccgcagc
1081 cgccgccact cctgctctc ctgcgccgc gccgtacca ccgccaccgc caccggctga
1141 gtctgcagtc ctgagggtga gg

Figure 8-A

AB004291 Chick mRNA complete cds

1 acatccttct ctgcagcttc gtctctctc ctcttacca gcactttctc agtctctgt
 61 tcacccctgc ttaggaaga gtcacatgg cagttgagag gatccatgcc cgagagatcc
 121 tggattctcg tgggaacccc actglagagg tggacctgta cacacacaaa ggcattgttc
 181 gaggagcggg cccagcggg gcatccactg gcatttatga agcattggag ctacgagata
 241 atgacaagtc acgtttctc ggaaaagggg tctgcaggc cgtggatcat atcaacagca
 301 ctgtcgcccc agctatctg ggctctggcc tctctgtgt agaccaagag aagatagaca
 361 atctgatgct tgagatggac ggcacagaga acaaatccaa gtttgggtcc aatgccattc
 421 tgggagtttc actggctgtg tgaaggcag gagctgcaga gaaggatgtc cccctgtacc
 481 ggcacattgc tgacctggca ggcaactccg atctatcct tctgtgcca gcttcaatg
 541 tgatcaatgg aggttccat gcaggcaaca aattggcaat gcaggagttc atgacctac
 601 ctgtgggagc tgaagcttc cgcgatgcca tgcgattgg agctgaagtc tatcacaatc
 661 tcaagagtgt tatcaaggag aagtatggca aggatgtac taatgtgggt gacgagggag
 721 gatttctcc taacatcctg gaaaacagtg aagctctgga gctcctcaag gaagctattg
 781 acaaggctgg ctacacagac aagatcgtta tcggtatgga tgggcagcc tctgagttct
 841 atcgagatgg caaatatgac ctgacttca agtccccaga tgaccaagc cgctacattt
 901 ctgcagatga gttgggtgac ctctatcaa gcttgtacg tgcttatcca gtgctttcca
 961 ttgaggatcc ctttgacaa galgactggg aggcctggc caagttcaca gccaacgttg
 1021 ggattcagat cgtgggagac gacctgacag tgacaaacc caagcgcatt gagcgagctg
 1081 ttgaagagaa ggcattgcaac tgctctctgc tcaagtgaa ccagattgga tctgtcacgg
 1141 aggccatcca agcctgtaag ttggcccagg agaattggctg ggggtgatg gtgagtcacc
 1201 gatctgggga gaccgaagac acttcattg ctgatctgt ctagcactg tgcactgggc
 1261 agataaagac tggtgcccc tgcaggctg aacgcctggc taaatacaac cagctcatga
 1321 ggattgagga ggagcttggc gatgaagcac gcttctgtg acacaacttt cgcaacccaa
 1381 gtgttcttg aacgttgtc cccaggcata gacaccctc agctcttcc cacatcacag
 1441 acttgaacc gtccttctc tcaactacc tttttgtct ctgtctcct tctctgccac
 1501 ctggttctc ctacacctaa agccccacga gttcaggtat cctggctag atataccag
 1561 gtgaagggg aaaaagaggt ctgcaccctg tcccttgctt tgggacata agcatttctg
 1621 gatttaggca tttgtgtct tttgtctg tgtcatctg aatcactctg ttacatat
 1681 agactatggg agcatgtgc ccagcgtgt tacgttgtat gccgaagcat gtgcagtga
 1741 catatgtgcg tcggctgtg ttttggaca agtgcgcac ttgtagctgt gtttgaacga
 1801 gtgtcaccag tggctcgtc tcgttgtgc tgtgtgtagg tgtatgtgt ctggcctaca
 1861 gcattgtgt gcccggtgc atttgtctg agccgtggg ggacctaagc gtctcttct
 1921 tccgttctga gcactgtcc gtgctgagct gtgctgtca gcagcttagt gttgagtga
 1981 gaattgctg tcactggccg tgtgtacgt tctgtcagt ctctgggtta agcagctctg

Figure 8-B

2041 tgggatcttg tgggtcagca catagtactg tggggcaata tattaaaaca cagtcgtaaa
2101 aacacacatg ctctcatttg cttatcttga ccttcttctc tgttccatc cctcttgac
2161 tccttcactc tctcttctgc ccataatgtc tgcttcacct tctagacagt caacgctcag
2221 caaagcaaca aactacagaa ccctaaactt aattaaaatg tatttcacac ctg

Figure 9-A

AF019973 Rat mRNA complete cds

1 cgccgccgcc gtcaccaccg ccaccgccac cggctgagtc tgcagtcctc gaggagatcc
 61 cagccatcat gtctatacag aagatctggg cccgagagat ctggactcc cgtgggaatc
 121 ccaccgtgga ggtggatctc catactgcc aaggctcttt ccgggctgca gtccccagtg
 181 gggcctccac tggcatctat gaggccctgg agctaaggga tggggacaaa cagcgttact
 241 taggcaaagg tgtctgaag gctgtggacc acatcaacag caccatcgca ccggccctca
 301 tcagctcagg cctctctgtg gtggagcagg agaagctgga caacctgatg ctggagtgg
 361 atgggactga gaacaaatcc aagtttgggg ccaatgccat cctgggtgtg tccctggccc
 421 tgtgcaaggc tggggcagcb gagaaggact tggccctcta tcgccacatt gctcaactgg
 481 ctgggaactc cgacctatc ctgccgtgc cggcctttaa tggatcaac ggtggctctc
 541 atgtgggaa caagtggcc atgcaggagt tcatgatcct cccagtgggt gctgagagct
 601 ttcgggatgc catgcgactt ggggcccagg tgtaccacac actcaagggg gtcataaagg
 661 acaagtacgg caaggatgcc actaatgtgg gggatgaagg cggctttgcc cccaatatcc
 721 tggagaacag cgaagcttg gagctggtga aggaagccat tgacaaggct ggctacacgg
 781 aaaagatggt gattggatg gatgtggctg cctctgagtt ttaccgcgat ggcaaatacg
 841 acttggattt caagtctccc gctgacctt cccgatgcat cactggggac cagcttgggg
 901 cactctacca ggactttgc cggaaactat ctgtggtctc cattgaagac ccattcgacc
 961 aggatgactg ggcagcttg tccaagttca cagccaatgt cggcatccag atagtgggtg
 1021 atgacctgac ggtgaccaac cccaagcgca tcgagcgggc agtggaggag aaggcctgca
 1081 actgtttgct gctcaaggtc aaccagatcg gctcagtcac agaagccatc caagcgtgca
 1141 agctggccca ggagaacggc tgggggggta tggtagtca tcgctctgga gaaaccgagg
 1201 acacgttcat tgcagacctc gtagtgggac tgtgtacagg tcagatcaag actggtgccc
 1261 catgcagatc tgaacgtctg gcgaagtaca accagctcat gaggattgaa gaggagtgg
 1321 gggaggaggc tcgcttcgcg ggacacaact tccggaatcc cagtgtgctg tgacccctg
 1381 ctlgcctgaa caccggaaca tcatctcatt ctctggagc ctctttctg ctgtcccgac
 1441 ccgccatagt taccttgata ccttgagccc caagtcaccc agaacacctc gactcacctg
 1501 ctctggctgt tcttggcttc cacaaccctt tgctgtctcc tactcttct cctctctggg
 1561 ccccatTTTT ggggggattc cagtctgccc actttccctt ctattctctc taatcttaaa
 1621 aaaaaaaaaa aaaaaatgac gactagaaga agcgggtcca cagaagaacc gccagcgtcc
 1681 gacaggagct tcaggattgg tgtgtgggg cgtttaaagt ggggccacgt ggcacgtgtg
 1741 ctccctgcc atccatggtg tgttaagcct tgaactatgc acagagctgg tgttgggga
 1801 gtgctggatg tgtgtgtgtt cacatttgtt tgtttgttta ttatttatt cacttattta
 1861 ttctcagcc tgcagtcgt ctgccattac tcttacagtc tgaaagcatc agtattttca
 1921 cgtggttcca ttcaagatg acctaggatg ggaggttttg ttagcatggg aaaggtcaca
 1981 gaaagggttag caatggtttt tcatttgggt cactaactga agctcgggtac ttacagaat

Figure 9-B

2041 ggggctgtgt acccggggac ttltctcta taactctctc cccagccct aggttctca
2101 gtcttttct cgggctgcac cagagcgctg cctattccc ccgtgccatg tcccacagt
2161 gccactgtct ctgtggcttt gaatatgacca ccactattaa agtctgaatc acagtgcaca
2221 cc

Figure 10

NSE

MSIQKIWAREILDSRGNPTVEVDLHTAK

1 ccaccaagg agatcccagc catcatgtct atacagaaga tctgggcccg agagatcttg
61 gactcccgtg ggaatccac cgtggagggtg gatctccata ctgccaaagg tgatgattag
121 cgtg

Figure 11

Rat neuron-specific enolase gene, 5' end.

```

1 agtaaagggtg atggcaggaa ggcagcccc ggaggcaaag gctgggcacg cgggaggaga
61 ggccagagtc agaggctgcg ggtatctcag atatgaagga aagatgagag aggctcagga
121 agaggtaaga aaagacacaa gagaccagag aagggagaag aattagagag ggaggcagag
181 gaccgctgtc tctacagaca tagctggtag agactgggag gaagggatga accctgagcg
241 catgaagga aggagggtgc tgggtgtata tggaggatgt agctggggcc agggaaaaga
301 tcctgactg gggatctgaa gctggggaga acaggacacg ggggtggagag gcgaaaggag
361 ggcagagtga agcagagaga ctgaggcctg gggatgtggg cattccgga gggcacacag
421 ttactgtc ttcttttt ccaggaggcc aaagatgctg acgtcaagaa ctcataatac
481 cccagtggg accaccgcat tcatagccct gttacaagaa gtgggagatg ttctttttg
541 tccagactg gaaatccatt acatcccgag gctcaggttc tgggtgtc atctctgtgt
601 ggcttgtct gtgggcctac cttaaagtct aagcacagct ctcaagcaga tccgaggcga
661 ctaagatgct agtaggggtt gtctggagag aagagccgag gaggtgggct gtgatggatc
721 agttcagctt tcaaataaaa aggcgtttt atattctgtg tcgagttcgt gaaccctgt
781 ggtgggcttc tccatctgtc tgggttagta cctgccacta tactggaata aggagacgcc
841 tgcttcctc gagtggctg gacaaggta tgagcatccg tgtacttatg gggttgccag
901 ctgggtcctg gatgcccgg gccctcccc caccggttcg gtccccacc accaccgcg
961 ctgtagctg cgtctccgc tcagctctt gactatcgg ggccccggg tcacatgcgc
1021 tcgtcggt ctataggcg cccccctgc ccacccccg cccgcgtgg gagccgcagc
1081 cgccgccact cctgctctct ctgcgccgc gccgtacca ccgccaccgc caccggctga
1141 gtctgcagtc ctgagggtga gg

```

Figure 12

Rat neuron-specific enolase gene, exon 1.

MSIQKIWAREILDSRGNPTVEVDLHTAK

1 ccaccaagg agatcccagc catcatgtct atacagaaga tctgggcccg agagatcttg
61 gactcccgtg ggaatccac cgtggagggt gatctcata ctgcaaagg tgatgattag
121 cggtg

Figure 13

neuron-specific enolase (intron 1)

```
1 gtgaggcccg tatcgggccg catcccctta ctctgtcctt gccgcgtcca ctccccgtta
61 tctggggctt agcgcccccg ggtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg
121 tgtgtgtgtg tgtgtgtgtg tgtgtgacgc tgcgtacctg tcacctgcct tccctggcac
181 cctccatccc cggccttcgc ggacagctcc cggctttctg gctgtcacct cctcctggtt
241 taggtaccag cttttctctc tctctctctc tctctctctc tctctctctc tctctctctc
301 tctctctctc cctgcacccg ctctctaac tcacagggtc caccctcgcc tgcacctctc
361 cccatgcctg tattctcca gggccggcc gatttggtc ttaagttcga tgtctccgca
421 ggcgggcgct gtttctctgg cacgttcatt ttgctttgc gttgcgaag atacctctc
481 atccttcctt ggctgctca gactgctct aga
```

Figure 14

R.norvegicus gene encoding neuron-specific enolase, exon 2 and joined CDS.

MSIQKIWAREILDSRGNPTVEVDLHTAKGLFRAAVPSGASTGIY
 EALELRDGDQRYLGKGVLKAVDHINSTIAPALISSGLSVVEQEKLNDNMLELDGTEN
 KSKFGANAILGVSLAVCKAGAAEKDLPLYRHIAQLAGNSDLILPVPAFNVINGGSHAG
 NKLAMQEFMILPVGAESFRDAMRLGAEVYHTLKGVIKDKYGKDATNVGDEGGFAPNIL
 ENSEALELVKEAIDKAGYTEKMOVIGMDVAASEFYRDGKYDLDFKSPADPSRCITGDQL
 GALYQDFVRNYPVVSIEDPFDQDDWAAWSKFTANVGIQIVGDDLTVTNPKRIERAVEE
 KACNCLLLKVNQIGSVTEAIQACKLAQENGWGVMSHRSGETEDTFIADLVGLCTGQ
 IKTGAPCRSERLAKYNQLMRIEEELGEEARFAGHNFRNPSVL

1 gcgacccctt ctacatgtgt ctgattgca gctgcccct cccactccc taccactgc
 61 agtagacctc ttcccagcc ctccgcctc tggcccgcc cactggcctc aggtccacc
 121 cttctaagcc tcttatctgt ctcttcct ctgtccacc caaggagatc ccagccatca
 181 tgtctatata gaagatctgg gcccagaga tcttgactc ccgtgggaat cccaccgtgg
 241 aggtggatct ccatactgcc aaaggatg attagcgtgg actgtctgta gctcctaaa
 301 ccctacgcc ctaggctgg aaagggtga ggtctcctt caaatccagg catgggggtg
 361 ct

Figure 15

Rattus norvegicus enolase 2, gamma (Eno2), mRNA.

MSIQKIWAREILDSRGNPTVEVDLHTAKGLFRAAVPSGASTGIY
EAELELRDGDQRYLGKGVLKAVDHINSTIAPALISSGLSVVEQEKLDNLMLELDGTEN
KSKFGANAILGVSLAVCKAGAAEKDLPLYRHIAQLAGNSDLILPVPAFNIVINGGSHAG
NKLAMQEFMILPVGAESFRDAMRLGAEVYHTLKGVIKDKYGKDATNVGDEGGFAPNIL
ENSEALELVKEAIDKAGYTEKMVIGMDVAASEFYRDGKYDLDFKSPADPSRCITGDQL
GALYQDFVRNYPVVSIEDPFDQDDWAAWSKFTANVGIIQIVGDDLTVTNPKRIERAEE
KACNCLLLKVNQIGSVTEAIQACKLAQENGWGVMSHRSGETEDTFIADLVVGLCTGQ
IKTGAPCRSERLAKYNQLMRIEEELGEEARFAGHNFRNPSVL

Figure 16-A

Enolase

1 gccgccccct gccaccccc cggccgcgct gggagccgca gccgcccga ctctgctct
 61 ctctgcgccc cggccgtcac caccgccacc gccaccggct gagtctgcag tctcgagga
 121 gatcccagcc atcatgtcta tacagaagat ctgggcccga gagatcttg actcccgagg
 181 gaatcccacc gtggagggtg atcccatat tgccaaaggt ctttccggg ctgcagtccc
 241 cagtggggcc tccactggca tctatgaggc cctggagcta agggatggg acaaacagcg
 301 ttacttaggc aaagggtgcc tgaaggctgt ggaccacatc aacagcacca tcgcaccggc
 361 cctcatcagc tcaggcctct ctgtggtgga gcaggagaag ctggacaacc tgatgctgga
 421 gttgatggg actgagaaca aatccaagtt tggggccaat gccatcctgg gtgtgtcct
 481 ggccgtgtc aaggctggg cagccgagaa ggactggcc ctctatgcc acattgtca
 541 actggctggg aactccgacc tcatcctgcc cgtgccggc ttaatgtga tcaacggtg
 601 ctctatgct gggaacaagt tggcatgca ggagttcatg atcctccag tgggtgctga
 661 gagcttccg gatgccatgc gactggggc cgagggtac cacacactca agggggctat
 721 caaggacaag tacggcaagg atgccaataa tgtgggggat gaaggcggct ttgccccaa
 781 tatcctggag aacagcgaag cttggagct ggtgaaggaa gccattgaca aggctggcta
 841 cacggaaaag atggtgattg gtatggatgt ggctgcctct gagtttacc gcgatggaa
 901 atacgacttg gattcaagt ctctgctga ccttccga tgcatcactg gggaccagct
 961 tggggcactc taccaggact ttgcccga ctatcctgtg gtctccattg aagaccatt
 1021 cgaccaggat gactgggcag ctgtgtccaa gtccacagcc aatgtcggca tccagatagt
 1081 gggatgatgac ctgacggtga ccaaccccaa gcgcatcgag cgggcagtgg aggagaaggc
 1141 ctgcaactgt ttgctgtca aggtcaacca gatcggctca gtacagaag ccatcaagc
 1201 gtgcaagctg gccaggaga acggctggg gggtatggtg agtcatcgct ctggagaaa
 1261 cgaggacacg ttcatgacg acctcgtagt gggactgtg acaggtcaga tcaagactg
 1321 tgcccatgc agatctgaac gtctggcgaa gtacaaccag ctcatgagga ttgaagagga
 1381 gttgggggag gaggtcgtc tcgcgggaca caactccgg aatccagtg tctgtgacc
 1441 cctgctgc ctgaacaccg gaacatcatc tcattctct ggagcctct tctgtgtc
 1501 ccgaccgcc atagttacct tgatacctg agcccaagt caccagaac acctgactc
 1561 acctgctctg gctgttctg gctccacaa ccccttgctg tctctactc ttctctct
 1621 ctggggccca ttttggggg gattccagta tgccacttt ccttctatt ctcttaate
 1681 ttaaaaaaa aaaaaaatg acgactagaa gaagcgggcc acagaagaac cgccagcgtc
 1741 cgacaggagc ttcaggattg gtgtgtggg gcgtttaaag tggggccacg tggcacgtg
 1801 gcttccctgc catcatggt gtgttaagcc ttgaactatg cacagagctg gtgttggg
 1861 agtgctggat gtgtgtgtg tcacattgt ttgtttttt atttattat tcactattt
 1921 atttctcagc ctgtcagtcg tctgccatta ctctacagt ctgaaagcat cagtatttc

Figure 16-B

1981 acgtggtcc attcaagat gacctaggat gggagggttt gtagcatgg gaaaggtcac
2041 agaaaggta gcaatgggtt ticatttggg gcactaactg aagctcggtā ctttacagaa
2101 tggggctgtg taccggggga cttttctcct ataactctct ccccagccc taggttcctc
2161 agtcttttc tccggctgca ccagagcgct gcctcattcc cccgtgcat gtcccacagt
2221 tgccactgtc tctgtggctt tgaaatgacc accactatta aagtctgaac cacagtgcac
2281 acca

Figure 17-A

Rattus norvegicus neuron specific enolase gene, 5' flanking region.

```

1  cggggatctc tgagttgag gccagcctgg tctgcagagt gattttcagg acagccaggg
61  ctacacagta gaagctgtc ttggaaggaa ggaaggaagg agagaaagaa ggaaggaagg
121 aaggagagaa ggaaggaagg aaggaaaaca acttcaaggc cagatgctgt agcatatgcc
181 tatagtctag ggcttgaag tcaacggcgg caggagaatt gatgcaagtg tgagggagaa
241 gccagatcca tacggtgctg agttctgtgc cagccagggg tacacagtgg gattcagtca
301 acagcactaa cagtaacaaa aaaaccagat gtgtggctca tacctataat tccagcactc
361 aggaacccga ggcaggagga ttctgtgag attgaggcca gcctggactg cagagccaga
421 ctctgtcaca cccctcctcc acacacacac acacacacac acacacacac acacacacac
481 acacacacaa agatacacac acacagagac acacacacac agagacacac acacagagac
541 acacacgtgc gcgcacgcac acacacacaa tcacaacatg cacacacgtg ctgcacaca
601 cgcgcgcgca cgacacacac cacggaagga ggaaggagga aggaggagat ggatgaacac
661 atgcagggtc agagggattt ttcttaagc tcctctttc tgatggacaa ttcttcaat
721 tttttgtg gttctatcaa tcaaaccag ggctgtgtgc atgtgaaatc tgtaccccat
781 cactgagccc aacacaacgc cagtagagct cagagtgagg agtgctcctt gaggcccagg
841 geacctatgg agatcagctc geaataetta acactggatt cataaatgtt cgaaaccaca
901 gagttttgga aagaagaaca ttacaagact gagcttttta ttcaagctgg ggggtcaat
961 ccatccttag ctctgggttc ctactgaag gaagcactcc caccacacag taccctactc
1021 ttagtctga gctctcctc tgctcgccca atccttcaa cccctatgg tggatggct
1081 gacacagaaa atgtctgtc ctgtatggga catttgcccc tcttctcaa atataagaca
1141 ggatgaggcc tagctttgc tgctccaaag tttaaaaga acacattgca cggcatttag
1201 ggactctaaa ggggtggagga ggaatgaggg aattgcatca tgccaaggct ggtcctcatc
1261 catcactgct tccagggtcc agagtggctt ccaggaggta ttcttacaaa ggaagccga
1321 tctgtagcta acactcagag cccattttcc tgcgttaacc cctcccgacc tcatatacag
1381 gagtaacatg atcagtgacc tgggggagct ggccaaactg cgggacctgc ccaagttag
1441 ggccttggtg ctgctggaca acccctgtgc cgtatgagact gactaccgcc aggaggccct
1501 ggtgcagatg gcacacctag agcgcttaga caaagagtac tatgaggacg aggaccgggc
1561 agaagctgag gagatccgac agaggctgaa ggaggaacag gagcaagaac tcgacccgga
1621 ccaagacatg gaaccgtacc tccgccaac ttagtggctc ctctagcctg cagggacagt
1681 aaaggtgatg gcaggaaggc agcccccgga ggcaaaggct gggcacgcgg gaggagaggg
1741 cagagtcaga ggctgcgggt atctcagata tgaaggaaag atgagagagg ctgaggaaga
1801 ggtaagaaaa gacacaagag accagagaag ggagaagaat tagagaggga ggcagaggac
1861 cgctgtctct acagacatag ctggtagaga ctgggaggaa gggatgaacc ctgagcgcat
1921 gaaggggaagg aggtggctgg tggatatgg aggatgtagc tggggccagg gaaaagatcc

```

Figure 17-B

1981 tgcaactgggg atctgaagct ggggagaaca ggacacgggg tggagaggcg aaaggagggc
2041 agagtgaagc agagagactg aggcctgggg atgtgggcat tccggtaggg cacacagttc
2101 actgtcttc tcttttcca ggaggccaaa gatgctgacg tcaagaactc ataatacccc
2161 agtggggacc accgcattca tagccctgtt acaagaagtg ggagatgttc cttttgtcc
2221 cagactggaa atccattaca tccgaggct caggttctgt ggtggctcgc tctgtgtggc
2281 ttgttctgtg ggcctaccta aagtctaag cacagctctc aagcagatcc gaggcgacta
2341 agatgctagt aggggtgtc tggagagaag agccgaggag gtgggctgtg atggatcagt
2401 tcagctttca aataaaaagg cgttttata ttctgtgtcg agttcgtgaa cccctgtggt
2461 gggcttccc atctgtctgg gttagtagct gccactatac tggataaagg agacgcctgc
2521 ttccctcgag ttggctggac aaggttatga gcatccgtgt acttatgggg ttgccagctt
2581 ggtcctggat cgcccgggcc ctccccac ccgttcggtt cccaccacc accgcgctc
2641 gtacgtcgt ctccgctgc agctctgac tcatggggc cccgggtca catgcgctcg
2701 ctggctcta taggc

Figure 18-A

R.norvegicus gene encoding neuron-specific enolase, exons 8-12.

```

1 gaatttact ctgtctccc taggtagcct ctctccacag accctattca cacaccccct
61 ccaatagtc ccttccttc actctggctt ttctacccg ccttccttca cacctatctc
121 tctacttaa aatctcactg gatctgtct tagctttgga gctggggaag gaagccattg
181 acaaggctgg ctacacggaa aagatgggta ttggtatgga tgggctgcc tctgagttt
241 accgcgatgg caaatacgac ttggatttca agtctcctgc tgacccttc cgatgcatca
301 ctggggacca gcttggggca ctctaccagg actttgtccg gaactatcct ggtgagagtg
361 agggattctg ggagatagga aagggaaga acggagatag gcagaggtga actttatggg
421 gtgcagagtc tggggcctgg tgacgtcctg aagcaggag aagaggcagt aggtcttac
481 aatgcagacc ttgagactg tgcatgcaac tggactggg ctctccgcc tegtctcaga
541 ccttgggctc tgagagctac ttgagtctca gggaaagcac tggaggagt cggggatggg
601 aagaacatga gtggaggtga cagaaaagt ccaggcttta gtatcctga ttgatgaaga
661 tagatactga atggagtcag cgcggtgcc tggggcgggg caggaggagg atcactgagg
721 tacagagtct ccacagctac aaagggcctc catcctgctt cgtggaggca gttggcctcc
781 atcatagcag gcttctctgg gaagaaccag cccctctcc acaccctctg cagtggctc
841 cattgaagac ccattcgacc aggatgactg ggcagcttgg tccaagtca cagccaatgt
901 cggcatccag atagtgggtg atgacctgac ggtgaccaac cccaagcgca tcgagcgggc
961 agtggaggag aaggcctgca actgtttgct gctcaaggtc aaccagatcg gctcagtcac
1021 agaagccatc caagcgtgag tggctctgg cctctccca cttgtgtct tcaggactcc
1081 tcttgagagc cccctctagc tggattctgc cctggaactc tggtaaacac tggctaccct
1141 tcacactgtt ctacttcta gtctctcat tcttcacgat ctgccctcac gccctaagt
1201 cacctccac cagggtcatt cctgacatag atcaagcccg gggctgggag ggaagagctg
1261 tgcttcaggg caggtcagt ctggtgtctg ctccaggtgc aagctggccc aggagaacgg
1321 ctgggggggt atggtgagtc atcgctctgg agaaaccgag gacacgttca ttgcagacct
1381 cgtagtggga ctgtgtacag gtcagggtgag tagagccagt ccgagggatc aggagagatc
1441 ttgtggggt tagtgggtc tgggccagg tagttactgt cctgccaaa aaaaatctga
1501 gtcagaaaag ttcaagagt agaagtctgg ccaggcgtag tggtcacac cttaatccc
1561 agcactcagg aggcagaggc aggtggatct ctgtgagttt aaggccagt ttgtttatat
1621 agtgagttc aggcagtcg gggctacact gagggactcc ttaacaaacg aagacgtgaa
1681 aagagtagaa gtccgagct ggtgagatgg ccaggaggt tcaagtgcc ggtgctaagc
1741 ctgactgcta gcttcagtt gattcatggg acccacaggt tagaaggaga gaaccaactc
1801 ccaccagttg tctctgacc ttccaatgca caccaggcaa gagcagacc acagacatgc
1861 atacagacat gaaataaagt attaatattt ataattaatt aattaataat taatagatac
1921 aatgcagat gtttcagggc tggaggctta gctcagttgc aggtacttcc cacatgcgca

```

Figure 18-B

1981 agaccctggg ttccattaaa aaaaggggag gggggaggta ggggtatgacc tgcattgcctt
 2041 tagtcctagc actcaggaga cagaggaagg aggatttcta tgaattcacc agcctagtct
 2101 acttagcgag ttctaggacg gctatagtaa aattctgtcc caaaaaaca aaaaatagac
 2161 ctggacttgg ggtcacatcc tttagcccca acattcggg aagtagaagc aggaggatca
 2221 ggagttcagg gctaacctgt cccatttgag gccaaacttc ataaaattgt ctcaaaataa
 2281 aaaaaagtg gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtt
 2341 gggggtaaag gggagcaagg ttgtctatc aggtgaagga gatctttaa cggcatatct
 2401 tctggaatgt ttcatgcaa gactggtgcc ccatgcagat ctgaacgtct ggcaagtagc
 2461 aaccagctca tgaggtagg agggccctg aggaacaaga acccgagacc cagagctgaa
 2521 caccctatta ggccaccatt ccatctctg catccaggag ctggatagta ctggctgcca
 2581 agaaaatggt ttgtttagt gggttcaagg gtggtgtgac tgacagatca ctacgtacc
 2641 tgaaaaccag ggaatgttca cctggggca gtctcaagg gaggagcctg gcgggatcca
 2701 gagagaaaag cagatctct ctccctccc tccctccc catgctccat tccggtcat
 2761 cgtcaggatt gaagaggagt tgggggagga ggctcgctc gcgggacaca actccggaa
 2821 tcccagtgtg ctgtgacccc ctgtgcct gaacaccgga acatcatctc attctcctg
 2881 agcctcttc ttgtgtccc gaccgcat agttacctg ataccttgag cccaagtca
 2941 cccagaacac ctgactcac ctgctctggc tgtcttggc ttccacaacc cctgtgtc
 3001 tctactctt cctctctct gggcccaatt ttgggggga ttccagtatg cccacttcc
 3061 ctctattct cttaattt aaaaaaaaaa aaaaatgac gactagaaga agcgtccac
 3121 agaagaaccg ccagcgtccg acaggagctt caggattggt gtgtggggc gtttaaagt
 3181 gggccacgtg gcacgtgtc ttccctgcca tccatggtgt gtttagcct gaactatga
 3241 cagagctggt gttggggag tgctggatgt gtgtgtgtc acattgttt gttgtttat
 3301 ttattattc acttattat ttctcagcct gtcagctgc tgccattact ctacagtct
 3361 gaaagcatca gtattttcac gtggttccat ttcaagatga cctaggatgg gaggtttgt
 3421 tagcatggga aaggtcacag aaaggttagc aatggtttt catttggtgc actaactgaa
 3481 gctcgttact ttacagaatg gggctgtga cccggggact ttctctat aactctctc
 3541 cccagcccta ggttctcag tctttctc cggctgcacc agagcgtgc ctattcccc
 3601 cgtgccatgt cccacagtg cactgtctc tgtgcttg aatgaccac cactattaaa
 3661 gtctgaacca cagtgcacac caccctgt ctgaggactt ttactcttg ctccatagta
 3721 gaggaggaag agaaaggact ggatattggt gaacctagag agcagatctg gggagggcaa
 3781 gtactgaac tcatgaccaa gttgcagca ttgctggcta tgtgaaccc atggtaaaaa
 3841 atccccaaa gacaggttt ctctgtgaag cctggctgt cctggagctc accctgtaga
 3901 ccatgctggc cccaaacct tagtgattag cctgcctctg cctctgggtg ctgggattaa
 3961 aattgtgtac tgccacacct gacaaacta aggactctta acctgtgata caggagtccc
 4021 tcaaacatca gggattgagt gtatctggag tgaggaataa ggcattctg gttccaaaag

Figure 18-C

4081 tcttgaggg aagaagggat aaagtggtag actagcattc ctgtacgggt cctcaacaga
4141 attc

Figure 19-A

R. norvegicus gene encoding neuron-specific enolase, exons 3-7.

```

1  ggccccggag tgctcccc ttctctgtc gcgtgtcttt ttccgaggtc tttccgggc
61  tgcagtcccc agtggggcct cactggcat ctatgaggcc ctggagctaa gggatgggga
121  caaacagcgt tacttaggca aagggtatga ctctctctc ccagcaggcc ccagtcccct
181  agatgccttg cctgcctct cctcagtc cccccctct cctggcctga gcagcccctt
241  tccctttctc taggtgtcct gaaggctgtg gaccacatca acagcaccat cgcaccggcc
301  ctcatcagct cagttagggc cgctctttcc tgggggtggc tgctaggcca gaatcttaca
361  agaaaccttg ggtccaggga ggaacgaggg gagggcaaaaa caaacaacaa aacaacaaaa
421  caactccaca cacacacaca cccctccct cccaccccc cccccactct ttaggaagtt
481  gtggttaca atgcaagggt tgggaaaata ctcttactg ccctgttga aattcaagat
541  cccaaaagct gtaggggag gtagctggca gtgcctgtc agacataagg ctttgttga
601  atggaccctc agtcttaggc tccagcctcc atcttgactc tgggtaatgg gggctctgca
661  cagggcctct ctgtgttga gcaggagaag ctggacaacc tgatgttga gttgatggg
721  actgagaaca aatgtaagta gggagggcag gtggaatagc taagcacaga gaactgagga
781  gccatctggg gacacttga ctgtcagaga acctcctct cctcaccca aagccactgt
841  agtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgacacta gacaggagga
901  aaaacttccc taaagcagga tgacaggggc tggcatgggg tagtctgggg gatgcttagg
961  aagaggtgag gccttccctt actgtcctc tctgtccca accccactgc tttgggagg
1021  tgcaggggtg ggagcctct ttactggatt ttctgggga gtataggtag gggcaggggc
1081  tacaagagag ggggacattt ttactggcg ccttctctg tgatctctca gccaaatttg
1141  gggccaatgc catctgggt gtgtccctgg ccgtgtgcaa ggctggggca gccgagaagg
1201  actgcccct ctatgccac attgtcaac tggctgggaa ctccgacctc atctgcccc
1261  tgccggtgag cattgccctt gcctagccct tccaggggag gagggagaat gcaaccaagt
1321  gagggatgaa gggaggaagg cgaacagaca gcagctaaag agaaaggacg gtagtgtaga
1381  actacctggc ggctggggat ctcaggttgg cattctcggg gcaggaggaa aggctctgac
1441  tcgtctgacc atctgtggct cccaggcct ttaatgtgat caacgggtggc tctcatgtg
1501  ggaacaagtt ggcatgcag gatttcatga tcttccagt ggggtctgag agcttccgg
1561  atgcatgag acttggggcc gaggtgtacc acacactcaa gggggctac aaggacaagt
1621  acggcaagga tgccactaat gtgggggatg aaggcggctt tgccccaat atctggaga
1681  acagcgaagg tgaggcccg agcccttacc ccagctgaat ctccgtag gaaagctggc
1741  acagcgggt ttttgaact ctgaaaatct caaatggtag tagcccctag ggtgagctcc
1801  cggggccttc ctatttcca catagaccct ggagctcagt ctgtgacctg ctgagctaaa
1861  cctgttgc ataggctcac cagactgtg agaatatgg taagtgtct gggtaggtc
1921  cattcatcc ttaaggaca cagtctcagt tagatgacat attctatgt ccaggggggt

```


Figure 20

R.norvegicus gene encoding neuron-specific enolase, exon 1.

```

1 ctgcagggac agtaaagggtg atggcaggaa ggcagcccc ggaggcaaag gctgggcacg
61 cgggaggaga ggccagagtc agaggctgcg ggtatctcag atatgaagga aagatgagag
121 aggctcagga agaggtgaaga aaagacacaa gagaccagag aagggagaag aattagagag
181 ggaggcagag gaccgctgtc tctacagaca tagctggtag agactgggag gaagggatga
241 accctgagcg catgaaggga aggagggtgc tgggtgtata tggaggatgt agctggggcc
301 agggaaaaga tctgcactg gggatctgaa gctggggaga acaggacacg ggggtggagag
361 gcgaaaggag ggcagagtga agcagagaga ctgaggcctg gggatgtggg cattccggtg
421 ggccacacag ttactgtgc ttctctttt ccaggaggcc aaagatgctg acgtcaagaa
481 ctcataatac cccagtggg accaccgcat tcatagccct gttacaagaa gtgggagatg
541 ttctctttt tccagactg gaaatccatt acatcccag gctcaggttc tgggtgtg
601 atctctgtgt ggctgttct gtgggcctac ctaaagtcct aagcacagct ctcaagcaga
661 tccgaggcga ctaagatgct agtaggggtt gctggagag aagagccgag gaggtgggct
721 gtgatggatc agttcagctt tcaaataaaa aggcgtttt atattctgtg tcgagttcgt
781 gaacccctgt ggtgggcttc tccatctgtc tgggttagta cctgccacta tactggaata
841 aggagacgcc tgcctccctc gattggctg gacaagggtt tgagcatccg tgtacttatg
901 ggggtgccag ctgggtcctg gatcgcccg gccctcccc caccgttcg gttccccacc
961 accaccgcg ctgctacgtg cgtctccg ccagctctt gactcatcgg ggccccggg
1021 tcacatgcgc tcgtcggct ctataggcgc cgccccctgc ccacccccg cccgcgctgg
1081 gagccgcagc cgccgccact cctgctctct ctgcgccg gccgtacca ccgccaccgc
1141 caccggctga gtctgcagtc ctgagggtga ggcccgtatc ggccctccct tactctgtcc
1201 ttgccgcgtc cactccccgt tatctgggct tagcgcccc ggtgtgtgt gtgtgtgt
1261 gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt tccgcg

```

Figure 21

Human NSE

1 MSIEKIWARE ILDSRGNPTV EVDLYTAKGL FRAAVPSGAS TGIYEALRLR DGDKQRYLGK
61 GVLKAVDHIN STIAPALISS GLSVVEQEKL DNLMLELDGT ENKSKFGANA ILGVSLAVCK
121 AGAAERELPL YRHIAQLAGN SDLILPVPAF NVINGGSHAG NKLAMQEFMI LPVGAESFRD
181 AMRLGAEVYH TLKGVKDKY GKDATNVGDE GGFAPNILEN SEALELVKEA IDKAGYTEKI
241 VIGMDVAASE FYRDGKYDLD FKSPTDPSRY ITGDQLGALY QDFVRDYPVV SIEDPFDQDD
301 WAAWSKFTAN VGIQIVGDDL TVTNPKRIER AVEEKACNCL LLKVNQIGSV TEAIQACKLA
361 QENGWGVMSV HRSGETEDTF IADLVVGLCT GQIKTGAPCR SERLAKYNQL MRIEEEELGDE
421 ARFAGHNFRN PSVL

Figure 22

Rat NSE

1 MSIQKIWARE ILDSRGNPTV EVDLHTAKGL FRAAVPSGAS TGIYEALER DGDKQRYLGK
61 GVLKAVDHIN STIAPALISS GLSVVEQEKL DNLMLELDGT ENKSKFGANA ILGVSLAVCK
121 AGAAEKDLPL YRHIAQLAGN SDLILPVPAF NVINGGSHAG NKLAMQEFMI LPVGAESFRD
181 AMRLGAEVYH TLKGVKDKY GKDATNVGDE GGFAPNILEN SEALELVKEA IDKAGYTEKM
241 VIGMDVAASE FYRDGKYDLD FKSPADPSRC ITGDQLGALY QDFVRNYPVV SIEDPFDQDD
301 WAAWSKFTAN VGIQIVGDDL TVTNPKRIER AVEEKACNCL LLKVNQIGSV TEAIQACKLA
361 QENGWGVMS HRSGETEDTF IADLVVGLCT GQIKTGAPCR SERLAKYNQL MRIEEEELGEE
421 ARFAGHNFRN PSVL

Figure 23

Human NSE

1 MSIEKIWARE ILDSRGNPTV EVDLYTAKGL FRAAVPSGAS TGIYEALRLR DGDQRYLGK
61 GVLKAVDHIN STIAPALISS GLSVVEQEKL DNLMLELDGT ENKSKFGANA ILGVSLAVCK
121 AGAAERELPL YRHIAQLAGN SDLILPVPAF NVINGGSHAG NKLAMQEFMI LPVGAESFRD
181 AMRLGAEVYH TLKGVIKDKY GKDATNVGDE GGFAPNILEN SEALELVKEA IDKAGYTEKI
241 VIGMDVAASE FYRDGKYDLD FKSPTDPSRY ITGDQLGALY QDFVRDYPVV SIEDPFDQDD
301 WAAWSKFTAN VGIQIVGDDL TVTNPKRIER AVEEKACNCL LLKVNQIGSV TEAIQACKLA
361 QENGWGVMSV HRSGETEDTF IADLVVGLCT GQIKTGAPCR SERLAKYNQL MRIEEEELGDE
421 ARFAGHNFRN PSVL

Figure 24

Chick NSE

1 MAVERIHARE ILDSRGNPTV EVDLYTHKGM FRAAVPSGAS TGIYEALRLR DNDKSRFLGK
61 GVLQAVDHIN STVAPAIVGS GLSVVDQEKI DNLMLEMDGT ENKSKFGANA ILGVSLAVCK
121 AGAAEKDVPL YRHIADLAGN SDLILPVPAF NVINGGSHAG NKLAMQEFMI LPVGAESFRD
181 AMRIGAEVYH NLKSVIKEKY GKDATNVGDE GGFAPNILEN SEALELLKEA IDKAGYTDKI
241 VIGMDVAASE FYRDGKYDLD FKSPDDPSRY ISADELGDLY QSFVRAYPVL SIEDPFDQDD
301 WEAWSKFTAN VGIQIVGDDL TVTNPKRIER AVEEKACNCL LLKVNQIGSV TEAIQACKLA
361 QENGWGVMS HRSGETEDTF IADLVVALCT GQIKTGAPCR SERLAKYNQL MRIEEEELGDE
421 ARFAGHNFRN PSVL